

REMARKS

Claims 1-5, 10-13, 18-20, 24-28 and 33 are now pending in the application. Claims 1-5, 10-13, 18-20, 24-28, 33-36 stand rejected. Claims 6-9, 14-17, 21-23, and 29-32 have been previously cancelled. Claims 34-36 have been cancelled herein, and Claims 1, 10, 18 and 25 have been amended. Support for the amendments can be found throughout the application, drawings and claims as originally filed and, as such, no new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claim 35 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants have cancelled Claim 35, and thus, this rejection has been rendered moot. Therefore, withdrawal of this rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-5, 10-13, 18-20, 24-28, 33-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sola et al. (U.S. Pat. No. 5,837,901; hereinafter "Sola"). This rejection is respectfully traversed.

Initially, Applicants note that Sola discloses a measuring machine that includes a bed 2, and a measuring unit 3. The machine includes a reconfigurable fixture 10 that

supports parts for measurement. The fixture 10 includes one or more supporting elements 11. The supporting elements 11 include a base 14, a column 15 coupled to the base via a connection 16, and a pad 18. The pad 18 couples the base 14 to the bed 2 of the machine. The pad 18 includes an air inlet 19 and inner channels 20 that direct pressurized air to nozzles 24 on the bottom face 25 of the pad 18. The pad 18 also includes permanent magnets 26 that clamp the pad 18 (and thus the fixture 10) to the bed 2. In contrast, independent Claim 1 recites:

...a shim that enables said modular stanchion to be removed from said pallet base, said shim coupled to the bottom of said stanchion base via an adhesive layer; and
a quick-bonding adhesive layer providing an interfacial joint between said modular stanchion and said pallet base,
wherein said stanchion base and said shim are electrically conductive such that said stanchion base is **removable from said shim by the application of an electric current to said modular stanchion** (emphasis added).

Independent Claim 10 recites:

...a quick-bonding adhesive layer providing an interfacial joint between said shim and said pallet base said interfacial joint **bonds said shim to said pallet base such that said shim is machined from said pallet base to reconfigure said pallet**,
wherein said stanchion base and said shim are electrically conductive such that said stanchion base is **removable from said shim by the application of an electric current to said modular stanchion** (emphasis added).

Independent Claim 18 recites:

coupling a component to the modular station;

performing an operation on the component selected from the group consisting of assembling the component, welding, treating the base structure, applying sealant and combinations thereof;

de-bonding said modular stanchion from said **shim** after using said reconfigurable pallet to support a first structure;

machining said shim from said pallet base to enable the reconfigurable pallet to be reconfigured; and

reconfiguring said reconfigurable pallet to support a second structure. (emphasis added).

Independent Claim 25 recites:

wherein said stanchion base and said shim are electrically conductive such that said stanchion base **is removable from said shim by the application of an electric current to said modular stanchion** (emphasis added).

With regard to the Office's modification of Sola, Applicants respectfully submit that the modification of the Sola reference cited by the Office does not present a *prima facie* case of obviousness. The U.S. Supreme Court has identified three primary criteria for establishing obviousness. These are: 1) determination of the scope and content of the prior art; 2) determination of the differences between the prior art and the claims at issue; and 3) determination of the level of ordinary skill in the pertinent art. *Graham v. John Deere*, 383 U.S. 1, 17 (1966). In rejecting claims under 35 U.S.C. §103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See *In re Fine*, 837 F.2d 1071, 1073, (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth as noted above in *Graham v. John Deere*, and to provide an apparent reason to combine the elements to arrive at the claimed apparatus. It is respectfully submitted that the Office has failed to fully determine the differences between the cited art and the claims

at issue, and has failed to provide an apparent reason to modify the cited art to arrive at Claims 1, 10, 18 and 25.

With regard to the differences between the cited art and the claims at issue, Applicants note that Sola does not teach, suggest or disclose the use of a bonding pack that includes a shim bonded to the bottom of a modular stanchion via a quick-debonding adhesive layer, or the use of a quick-bonding adhesive layer providing an interfacial joint between the modular stanchion and a pallet base, as noted by the Office. Furthermore, Sola also does not teach, suggest or disclose that the stanchion base and the shim are electrically conductive such that **the stanchion base is removable from the shim by an application of an electric current** to said modular stanchion, or that **the interfacial joint bonds said shim to said pallet base such that said shim is machined** from the pallet base to reconfigure said pallet. Sola also does not teach, suggest or disclose **applying an electrical current** to the modular stanchion to debond the modular stanchion from the shim after using the reconfigurable pallet to support a first structure or **machining the shim from the pallet base** to enable the reconfigurable pallet to be reconfigured.

Rather, Sola teaches the use of the pads 18 so that the head 4 of the machine can automatically position the bases 14 on the surface of the bed 2. The pads 18 are securely coupled to the base 14 to ensure that that pad 18 is not dislodged or inadvertently moved when the machine moves the bases 14 about the bed 2. The Office states that it would have been obvious to one of skill in the art to modify Sola to include the use of a bonding pack instead of the pad 18. Applicants respectfully submit

that there is no apparent reason to modify Sola to arrive at Claims 1, 10, 18 and 25 as Sola teaches away from this modification. Specifically:

It is established that where references, instead of suggesting the invention, **seek or warn to avoid the suggestion**, such references diverge from and teach away from the invention at hand and it is error to find obviousness based on such references.

In re Fine, 837 F.2d 1071, 1074, 5USPQ2d 1596, 1599 (Fed. Cir. 1988) (emphasis added). In this regard, Sola teaches that it is desirable to use the machine to configure and position the bases 14 relative to the bed 2 as it results in a fixture 10 that is “faster to configure as compared to manually configured solutions.” Sola also states that the use of the pad 18 with the fixture 10 is desirable as it “involves very little downtime of the machine [with the downtime] limited to the time taken to automatically position the bases 14...” (see at least Col. 6, lines 1-4). To modify Sola to include the bonding pack as claimed would result in a manually configured solution that would require additional downtime when compared to the use of the pads 18, in direct contrast to the teachings of Sola. Thus, modifying Sola to include the bonding pack for coupling the bases 14 to the bed is improper as Sola teaches that this configuration results in an undesirable configuration for the fixtures 10 (i.e. a manually configured fixture). In view of this, Applicants submit that it is an error to find obviousness based on the Sola reference as Sola seeks to avoid a manually configured fixture.

Further, Applicants note that it is improper to modify Sola to include the bonding pack as claimed, as if the proposed modification of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270

F.2d 810, 123 USPQ 349 (C.C.P.A. 1959) MPEP 2143.01. In this regard, modifying Sola to include the bonding pack would impermissibly modify the principle of operation of the fixture. Sola teaches that the entire fixture is moveable by the head 4 to reconfigure the bed 2. To modify Sola to include using the bonding pack to couple the fixture to the bed 2 would impermissibly modify the principle of operation of Sola as it would prevent the machine from being able to move the entire fixture to reconfigure the bed 2 (i.e. part of the bonding pack is bonded such that machining is required to remove it). Thus, modifying Sola to include the bonding pack would impermissibly modify the principle of operation of Sola, and is improper.

In this regard, applicants respectfully submit that at the time of invention, applicants claimed invention addressed an as yet fully comprehended problem in the manufacturing sector. As such, the solution for the fixturing manufactured components using selectively positionable modular stanchions removably fixed with adhesive so as to allow the reuse of a pallet, as encompassed by the applicant's claims is non-obvious. Sola does not address the problem solved in the manufacturing sector.

The examiner's attention is directed to independent method Claim 18. Claim 18 has been amended to include the limitations "coupling a component to the modular station" and "performing an operation on the component selected from the group consisting of assembling the component, welding, treating the base structure, applying sealant and combinations thereof." Applicants respectfully submit that the Sola reference is completely silent as to these limitations as Sola is directed to a teaching a measurement jig.

Further, applicant respectfully submits that Sola is non-analogous art as it is directed to measurement equipment as opposed to manufacturing equipment. Applicants submit that one skilled in the art of fixating components for manufacturing would not look to the teachings of measurement fixtures. Simply put, a manufacturing engineer would not look to systems which utilize the relatively low retention force of a fixed magnet to support vehicle components during manufacturing.

In view of the above, Applicants submit that the Office has not presented a *prima facie* case of obviousness as there are differences between the cited art and the claims at issue, and there is no apparent reason to make the Office's modification. As such, Applicants respectfully request that the Office reconsider and withdraw the rejection of Claims 1, 10, 18 and 25 under 35 U.S.C. §103(a).

With regard to Claims 2-5, 12, 13, 19, 20, 24, 26-28 and 33, Applicants note that Claims 2-5, 12, 13, 19, 20, 24, 26-28 and 33 depend directly or indirectly from Claims 1, 10, 18 or 25, and thus, should be in condition for allowance for at least the reasons set forth for Claim 1, 10, 18 and 25 above. Thus, Applicants respectfully request that the Office reconsider and withdraw the rejection of Claims 2-5, 12, 13, 19, 20, 24, 26-28 and 33 under 35 U.S.C. §103(a).


CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is

believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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